The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK A. BAKKE and HAROLD G. VARNIS

Appeal No. 2006-2243
Application No. 09/373,795

ON BRIEF

Before THOMAS, KRASS, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-20, which are all the claims in the application.

We affirm-in-part.

BACKGROUND

The invention relates to locating data stored on distributed computer systems.

Representative claims 1 and 11 are reproduced below.

1. A file system for storing data comprising:

a plurality of storage devices, each storage device operative to store at least one copy of at least one file;

at least one location server operative to map a file identifier for each file into the location of each copy of the file represented by the file identifier; and

at least one name server operative to map a file name to the file identifier referenced by the file name, each name server physically separate from the at least one location server.

11. A method for accessing a file referenced by a file name, the file stored on at least one storage device, the method comprising:

sending the file name to a name server;

receiving a file identifier corresponding to the file name from the name server;

sending the file identifier to a location server, the location server separate from the name server;

receiving file location information corresponding to the file identifier from the location server; and

accessing the file using the location information.

The examiner relies on the following references:

Long et al. (Long)	US 5,991,763	Nov. 23, 1999 (filed Oct. 21, 1997)
Story et al. (Story)	US 6,081,807	Jun. 27, 2000 (filed Jun. 13, 1997)

Frey	US 6,029,168	Feb. 22, 2000 (filed Jan. 23, 1998)

Claims 11-14 stand rejected under 35 U.S.C. § 102 as being anticipated by Story.

Claims 1-6 and 16-19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Story and Frey.

Claim 15 stands rejected under 35 U.S.C. § 103 as being unpatentable over Story and Long.

Claims 7-10 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Story, Frey, and Long.

We refer to the Final Rejection (mailed Feb. 8, 2002) and the Examiner's Answer (mailed Oct. 17, 2002) for a statement of the examiner's position and to the Brief (filed Oct. 1, 2002) and the Reply Brief (filed Dec. 18, 2002) for appellants' position with respect to the claims which stand rejected.

OPINION

Story describes a system that includes a "stateless" Network File System (NFS) server. The examiner finds that claims 11-14 are anticipated (35 U.S.C. § 102) by Story. Claims 12-14 depend from independent claim 11.

In particular, the examiner finds that Name Server 130 (Story Fig. 1) corresponds to the name server of instant claim 11. NFS Server 122 (Fig. 1) is deemed to correspond to the claimed location server. (Answer at 17-19.)

Story shows, in Figure 1, a network client 102 coupled to a network server 106 via a network connection 110. When application program 112 requests a file that is not in local file system 114, interface 118 passes the request to NFS client 116. The request is dispatched to NFS server 122. The request to the NFS server contains a file handle parameter containing such information as the type of file, time of creation of the file, and a unique identifier for the file. NFS server 122, in turn, gains access to Open Systems Services (OSS) file system 124 via a set of system calls through interface 126. Story col. 3, l. 62 - col. 4, l. 52.

OSS file system 124 contains one or more file-system data structures called VNODES (virtual nodes). Each file currently in use in the server has an associated VNODE, which contains such information as the state of the file and timestamps associated with the file. The file system also includes a hashing mechanism for locating a VNODE associated with a file based on information in the file handle included in the NFS client request. Col. 4, l. 53 - col. 5, l. 6.

Name server 130 is responsible for file name hierarchy and provides pathname resolution. Disk process 128, which maintains data structures relating to state and location of a file on disk, performs functions relating to transfer of data to or from disk. Col. 5, ll. 7-18.

Appellants argue, inter alia, that Story does not disclose a location server receiving a file identifier and sending file location information. Appellants also submit that the reference does not disclose a file identifier received from a name server and sent to a location server. (Brief at 16-18.)

The examiner responds, first, by referring to column 5, lines 2 through 6 of Story. Further, according to the examiner, NFS server 122 is capable of sending and receiving file information through network element 110. (Answer at 26.) With respect to the alleged lack of a file identifier received from a name server and sent to a location server, the examiner responds that Story teaches that the "file handler" [sic; file handle?] contains file identifier information, and all requests would be processed through NFS server 122, with reference to column 4, lines 44 through 52 of the reference. (Id. at 27.)

We agree with appellants to the extent that instant claim 11 distinguishes over the method described by Story. The claim requires receiving a file identifier from the name server, sending the file identifier to a location server, receiving file location information corresponding to the file identifier from the location server, and accessing the file using the location information. The rejection fails to point out and rely on any teachings in the reference that are contrary to our summary of its teachings, supra. NFS server 122 (the "location server") in Story does not receive a file identifier from Name Server 130 and generate file location information that is used to access the file. As shown in Figure 2 of the reference, NFS server 122 receives the file request from

NFS client 116, then sends the file request information via system calls to OSS File System 124. The OSS File System 124 and Name Server 130 access the file without requesting, or receiving, any further information from NFS Server 122. As depicted in Figure 2, after the file is accessed the "Read Data and/or status" with respect to the file is returned to NFS Client 116.

We therefore do not sustain the rejection of claims 11-14 under 35 U.S.C. § 102 as being anticipated by Story.[1] Nor do we sustain the rejection of dependent claim 15, rejected over Story, Frey, and Long. The § 103 rejection of claim 15 does not remedy the deficiencies in the rejection applied against the base claim.

The examiner has also rejected claims 1-6 and 16-19 under 35 U.S.C. § 103 as being unpatentable over Story and Frey. With respect to instant claim 1, the rejection again relies on NFS Server 122 of Story as corresponding to the "location server" and Name Server 130 corresponding to the "name server." The rejection further relies on Frey for teachings relating to mapping a file identifier. (Answer at 4-7.)

Appellants' sole argument in defense of instant claim 1 is that the references do not teach a name server that is physically separate from a location server. In Story, NFS server 122 and name server 130 are disclosed as software modules running on

[1] In view of the apparent scope of instant claim 11, we recommend that the examiner search prior art areas beyond the network file systems that are represented by the applied prior art. Internet systems, for example, comprise client computers, intermediate servers (e.g., Internet Service Provider (ISP) servers), domain name (DNS) servers, and content servers. The DNS servers provide file location information (i.e., Internet addresses) to the intermediate servers and/or clients for accessing files on content servers.

the same network server 106. According to appellants, Story does not teach or suggest the claimed "physically separate" name server and location server. (Brief at 6-7.)

Consistent with appellants' remarks, elements 122 and 130 are described as being implemented as software programs stored in memory and executed by one or more respective processors. Story col. 4, ll. 16-20. As shown in Figure 2, both modules reside on the same server (i.e., network server 106).

However, appellants do not point to any special definition for "physically separate" set forth in the instant specification. Appellants, to the contrary, refer to a specific embodiment in which the only access between any name server and the location server is through at least one network. (Reply Brief at 4.)

Instant claim 1 does not specify what might serve (e.g., a network) to physically separate each name server from the at least one location server. Story at least suggests that the programs that effect the NFS Server and the Name Server are implemented in physically separate (physical) memories, even if the memories may reside on the same server. Moreover, even if the program modules were to reside in the same physical, contiguous memory, the programs would be physically separate (i.e., at different address locations) within that same memory. The claim requires no more. Claims are to be given their broadest reasonable interpretation during prosecution, and the scope of a claim cannot be narrowed by reading disclosed limitations into the claim. See In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir.

1989); In re Prater, 415 F.2d 1393, 1404, 162 USPQ 541, 550 (CCPA 1969). Our reviewing court has repeatedly warned against confining the claims to specific embodiments described in the specification. Phillips v. AWH Corp., 415 F.3d 1303, 1323, 75 USPQ2d 1321, 1334 (Fed. Cir. 2005) (en banc).

We are therefore not persuaded of error in the rejection of claim 1. Claims 4, 5, and 7-10, not separately argued and grouped by appellants to stand or fall with claim 1, fall with claim 1.

Dependent claim 2 recites that each file is stored as at least one file extent, and the file identifier comprises a file handle. According to the examiner, a file in a network file system environment consists of one or more extents. (Answer at 24.) While appellants allege that neither Story nor Frey mentions an extent (Brief at 10), appellants do not appear to respond to the examiner's finding with respect to files in a network file system environment. Moreover, claim 2 includes within its scope a file stored as a single file extent. Being not persuaded of error in the rejection of claim 2, we sustain the rejection.

With respect to dependent claim 3, the examiner finds that Story teaches files being represented in storage as an object, and each file identifier an object identifier, because the OSS file system has the ability to locate a VNODE associated with the file using the hashing mechanism based on the file ID and file handle, referring to column 5, lines 30 through 34 of Story. (Answer at 8 and 24.) Appellants argue that the

hashing mechanism described by Story has nothing to do with objects or object identifiers, referring to a technical dictionary definition of "hashing." (Brief at 11-12.)

We are cognizant that the artisan was well acquainted with object-oriented programming and the benefits of its application to networked file systems. However, we cannot substitute our own knowledge for evidence that is lacking in the record. See In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (in a determination of patentability "the Board must point to some concrete evidence in the record in support of. . .[the]. . .findings"). "With respect to core factual findings in a determination of patentability . . . the Board cannot simply reach conclusions based on its own understanding or experience -- or on its assessment of what would be basic knowledge or common sense." Id.

The instant record, however, is contrary to appellants' position that representing a file in storage as an object, and each file identifier being an object identifier, in a file system represent patentable contributions to the art. Appellants' specification teaches that it was traditional to store files in an object-oriented format. (Spec. at 1, 2nd ¶.)[2] Appellants' described invention uses prior art file systems (e.g., spec. at 5, 4th ¶; spec. at ¶ bridging pages 1 and 2). We consider claim 3 to fall with base claim 1, and sustain the rejection of the claim.

[2] Relating to claim 2, appellants' specification also notes that data has traditionally been stored in files with each file composed of one or more extents.

Appellants argue that dependent claim 6 is separately patentable from base claim 1 because Story does not disclose two different file access standards. However, Frey demonstrates database structures and file access standards that are different from those of Story. Moreover, the feature is claimed so broadly as to read on one file access standard being a write access on one name server and another file access standard being a read access on another name server at a particular moment, as indicated by the examiner in the Answer. The claim does not preclude that the servers may operate under more than one file access standard; e.g., capable of both read access and write access. Story teaches both read access and write access. We sustain the rejection of claim 6.

Finally, we do not sustain the rejection of claims 16-19 under 35 U.S.C. § 103 as being unpatentable over Story and Frey. Independent claim 16 requires at least one client operative to, inter alia, receive location information mapped to the received file identifier. Although both Story and Frey teach network clients (e.g., network client 102, Story Fig. 1, relied upon in the rejection), we agree with appellants (Brief at 9-10) that neither reference teaches or suggests the requirements of the client in the combination claimed. Nor do we sustain the rejection of claim 20 under 35 U.S.C. § 103 as being unpatentable over Story, Frey, and Long, as the rejection does not remedy the deficiencies in the rejection applied against base claim 16.

CONCLUSION

The rejection of claims 11-14 under 35 U.S.C. § 102 as being anticipated by Story is reversed.

The rejection of claims 1-6 and 16-19 under 35 U.S.C. § 103 as being unpatentable over Story and Frey is affirmed with respect to claims 1-6 but reversed with respect to claims 16-19.

The rejection of claim 15 under 35 U.S.C. § 103 as being unpatentable over Story and Long is reversed.

The rejection of claims 7-10 and 20 under 35 U.S.C. § 103 as being unpatentable over Story, Frey, and Long is affirmed with respect to claims 7-10 but reversed with respect to claim 20.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a). See 37 CFR § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

JAMES D. THOMAS
Administrative Patent Judge

ERROL A. KRASS
Administrative Patent Judge

HOWARD B. BLANKENSHIP
Administrative Patent Judge

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